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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,312	09/30/2003	Hao Pan	SLA1347 (7146.0167)	8186
55648	7590	03/25/2011		
KEVIN L. RUSSELL CHERNOFF, VILHAUER, MCCLUNG & STENZEL LLP 1600 ODS TOWER 601 SW SECOND AVENUE PORTLAND, OR 97204			EXAMINER DHARIA, PRABODH M	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 03/25/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/676,312	Applicant(s) PAN ET AL.	
	Examiner PRABODH M. DHARIA	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. **Status:** Please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted on 01-28-2011 under amendments and request for reconsideration, which have been placed of record in the file. Claims 1-4 are pending in this action.

Response to Amendment

2. The amendment filed 01-28-2011 does not introduce new matter into the disclosure. The added material is supported by the original disclosure. Applicant has amended Independent claims 1 to overcome prior art rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liaw, Ming-Jiun (US 20040140985 A1) in view of Sekiya et al. (US 2002/0175907 A1).

Regarding claim 1, Liaw, Ming-Jiun (US 20040140985 A1) discloses a method of modifying a video image (page 2, paragraphs 23-27) comprising a plurality of sequential frames to be displayed on a display (figures 5-7 suggests receiving plurality of frames of image data and displaying on LCD display, page 2, paragraphs 26,27); (a) receiving at least a portion of a

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current frame of said video image (figures 5-7 suggests receiving plurality of frames of image data and displaying on LCD display, page 2, paragraphs 26,27); and (b) modifying said current frame to alternatively increase or decrease the luminance output of a portion of said display corresponding to a pixel of said current frame, by overdriving a voltage to said portion to a current value automatically selected (pages 1- 3, paragraphs 9-11, 22-38, please see paragraphs 30-33 does suggests automatically selecting predicted display luminance values from LUT)) based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones of at least one subsequent frame of said video image (pages 1- 3, paragraphs 9-11, 22-38, please see paragraphs 30-33 does suggests automatically selecting predicted display luminance values from LUT); and (ii) at least one previously displayed luminance value of said pixel in respective ones of at least one previous frame of said video image (pages 1- 3, paragraphs 9-11, 22-38).

However, the prior art of Liaw, Ming-Jiun (US 20040140985 A1) fails to disclose current driving value is calculated to reach a non-equilibrium displayed luminance value in said current frame used to predict said at least one predicted displayed luminance value of said pixel in said at least one frame subsequent to said current frame.

However, in the applicant's field of endeavor prior art of Sekiya et al. (US 2002/0175907 A1) current driving value is calculated to reach a non-equilibrium displayed luminance value in said current frame used to predict said at least one predicted displayed luminance value of said pixel in said at least one frame subsequent to said current frame (please see abstract, page 2, paragraph, 27, suggests targeted or predicted values for current frame is calculated to predict brightness or luminance value of pixel displayed in subsequent frame or later frame; page 3,

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paragraph 51 suggests non equilibrium state being dynamic state and targeted or predicted brightness or luminance values for pixel is calculated please also see page 6, paragraphs 62,63).

The Prior art of Liaw, Ming-Jiun (US 20040140985 A1) provides base with method of modifying a video image comprising a plurality of sequential frames to be displayed on a display; (a) receiving at least a portion of a current frame of said video image; and (b) modifying said current frame to alternatively increase or decrease the luminance output of a portion of said display corresponding to a pixel of said current frame, by overdriving a voltage to said portion to a current driving value automatically selected based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones of at least one frame subsequent to said current frame of said video image; and (ii) at least one previously displayed luminance value of said pixel in respective ones of at least one frame previous to said current frame of said video image; in which the claimed invention can be seen as an improvement in that current driving value is calculated to reach a non-equilibrium displayed luminance value in said current frame used to predict said at least one predicted displayed luminance value of said pixel in said at least one frame subsequent to said current frame is known technique disclosed by the prior art of Sekiya et al. (US 2002/0175907 A1) and is applicable to base process. The prior art of Sekiya et al. (US 2002/0175907 A1) disclosing known technique of current driving value is calculated to reach a non-equilibrium displayed luminance value in said current frame used to predict said at least one predicted displayed luminance value of said pixel in said at least one frame subsequent to said current frame would have been recognized by one skill in the art as applicable to base process of Liaw, Ming-Jiun (US 20040140985 A1) and the results would have been predictable and resulted in improve scrolling of text, dragging of icons, computer graphics (CG) animation displayed on

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LCDs, as well as color shifts, blurring and trailing that may appear on moving pictures (non-equilibrium state) and liquid crystal display device for improving the response time of the liquid crystal display. Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

Relative to claim 2, Liaw, Ming-Jiun (US 20040140985 A1) discloses at least one previously displayed luminance value of said pixel is stored in a respective frame buffer (page 2, paragraph 27).

Relative to claim 3, Sekiya et al. (US 2002/0175907 A1) a first said previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value is from the earliest said at least one frame, upon which selection of said current value is based (please see abstract, page 2, paragraph, 27, page 3, paragraph 51, please also see pages 5 and 6, paragraphs 51-66 Liquid material is starting at non-equilibrium state and reaches equilibrium state and brightness of pixel predicted or targeted values are achieved one frame later because delay from liquid crystal or pixel capacitor charging).

Relative to claim 4, Liaw, Ming-Jiun (US 20040140985 A1) discloses a method of modifying a video image (page 2, paragraphs 23-27) comprising a plurality of sequential frames to be

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displayed on a display (figures 5-7 suggests receiving plurality of frames of image data and displaying on LCD display, page 2, paragraphs 26,27); (a) receiving at least a portion of a current frame of said video image (figures 5-7 suggests receiving plurality of frames of image data and displaying on LCD display, page 2, paragraphs 26,27); and (b) modifying said current frame to alternatively increase or decrease the luminance output of a portion of said display corresponding to a pixel of said current frame, by overdriving a voltage to said portion to a current value automatically selected (pages 1- 3, paragraphs 9-11, 22-38, please see paragraphs 30-33 does suggests automatically selecting predicted display luminance values from LUT)) based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones of at least one subsequent frame of said video image (pages 1- 3, paragraphs 9-11, 22-38, please see paragraphs 30-33 does suggests automatically selecting predicted display luminance values from LUT); and (ii) at least one previously displayed luminance value of said pixel in respective ones of at least one previous frame of said video image (pages 1- 3, paragraphs 9-11, 22-38).

However, the prior art of Liaw, Ming-Jiun (US 20040140985 A1) fails to a first said previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value is from the earliest said at least one frame, upon which selection of said current value is based

However, in the applicant's field of endeavor prior art of Sekiya et al. (US 2002/0175907 A1) a first said previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said

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previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value (please see abstract, page 2, paragraph, 27, page 3, paragraph 51, please also see pages 5 and 6, paragraphs 51-66 Liquid material is starting at non-equilibrium state and reaches equilibrium state and brightness of pixel predicted or targeted values are achieved one frame later because delay from liquid crystal or pixel capacitor charging).

The Prior art of Liaw, Ming-Jiun (US 20040140985 A1) provides base with method of modifying a video image comprising a plurality of sequential frames to be displayed on a display; (a) receiving at least a portion of a current frame of said video image; and (b) modifying said current frame to alternatively increase or decrease the luminance output of a portion of said display corresponding to a pixel of said current frame, by overdriving a voltage to said portion to a current driving value automatically selected based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones of at least one frame subsequent to said current frame of said video image; and (ii) at least one previously displayed luminance value of said pixel in respective ones of at least one frame previous to said current frame of said video image; in which the claimed invention can be seen as an improvement in that a first said previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value is known technique disclosed by the prior art of Sekiya et al. (US 2002/0175907 A1) and is applicable to base process. The prior art of Sekiya et al. (US 2002/0175907 A1) disclosing known technique

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of a first said previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value would have been recognized by one skill in the art as applicable to base process of Liaw, Ming-Jiun (US 20040140985 A1) and the results would have been predictable and resulted in improve scrolling of text, dragging of icons, computer graphics (CG) animation displayed on LCDs, as well as color shifts, blurring and trailing that may appear on moving pictures (non-equilibrium state) and liquid crystal display device for improving the response time of the liquid crystal display. Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

Response to Arguments

5. Applicant's arguments, see remark, filed 01-28-2011, with respect to the rejection(s) of claim(s) 1 and 2 under 35 U.S.C. 102(e) as being anticipated by Liaw, Ming-Jiun (US 20040140985 A1) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sekiya et al. (US 2002/0175907 A1).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please review the prior art cited on PTO 892's.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRABODH M. DHARIA whose telephone number is (571)272-7668. The examiner can normally be reached on M-F 8-30AM to 5PM.

8. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

/Prabodh M Dharia/

Primary Examiner,

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March 23, 2011